

## Repairs Under Way for 50-Year-Old Structure

### Paseo Bridge Closed for Summer

A planned rehabilitation of the Paseo Bridge in downtown Kansas City closed the 50-year-old structure on May 17.

The first days of the closure were expected to be a challenge for commuters and emergency service providers. But local motorists adjusted their habits quickly, and fears of gridlock disappeared.

Although the closure will be painful to commuters, tourists and businesses that operate along the Interstate 29/Interstate 35 corridor in Kansas City, more than a year's worth of public involvement and informational efforts are helping mitigate the project's immediate effects.

"As we talked to commuters, businesses and residents who live near the bridge, we learned that virtually everyone knew we were going to close the bridge, and why we needed to do the work," said Project Manager Kent Johnson. "And virtually everyone asked us for an exact closing date."

A February pre-construction meeting with the contractor, Clarkson Construction Co. of Kansas City, nailed down that important detail.

#### Project Details

Closing the bridge to traffic will allow Clarkson to complete its work as quickly as possible. The contract includes incentives for early completion, and requires that the bridge reopen in November for the winter months of 2005-2006.

"Ten days of emergency repairs in January 2003 helped convince us, the

Federal Highway Administration and local political and business leaders that we could close the bridge for this work," said Assistant District Engineer Linda Clark.

And the work is substantial.

In addition to a fresh coat of blue paint, the refurbished bridge will feature new barrier rails, light poles, hand ropes and bearings. Its cables will be wrapped for weatherproofing, and a new driving surface will greet motorists when it reopens.

The 95,000 vehicles the structure handles on a normal day will use other nearby bridges to traverse the river. Through traffic is being diverted via the I-435 loop around downtown Kansas City. Motorists are encouraged to plan their route with the help of the project's web site, [www.kcrivercrossings.org](http://www.kcrivercrossings.org).

#### Other Measures

MoDOT is also working with the Mid-America Regional Council and the Kansas City Area Transportation Authority to encourage carpooling and using enhanced transit services during the closure.

In addition, District 4 transportation planning staff continues its work on an Environmental Impact Statement and



HNTB Corporation

**A rendering shows how the Paseo Bridge will appear following its rehabilitation.**

# Ready, Set, Resurface!

Two years of planning should pay big dividends for District 4 pavement conditions, now that Amendment 3 is bringing more money to MoDOT.

“Our pavement management team has positioned us to maximize additional funding for the Smooth Roads Initiative in the Kansas City Region,” said Assistant District Engineer Chris Redline. “Our most heavily-traveled roads should show rapid improvement, and we have a solid plan for all of our pavement, from interstates to lettered routes.”

Redline credits his predecessor, Beth Wright, for laying the pavement management program groundwork more than two years ago. Jesse Skinner, the district’s pavement management specialist, has worked with maintenance field personnel to prioritize and determine pavement treatments for the region’s roadways since then.

District 4’s Smooth Roads projects and pavement management plan should bring all major routes to good condition within the next three years. Many of those treatments will involve a Superpave asphalt overlay, with existing pavement milled as necessary.

## Custom Solutions

Lower-volume roads (mainly lettered routes) and some arterials will receive a chip seal treatment, with about 200 lane miles scheduled for that type of improvement in fiscal year 2005. But Redline points out that one size won’t fit all in District 4.

“We have a lot of pavement treatment options and techniques at our disposal,” Redline said. “The trick is to select the best option for each pavement and strike the correct balance between preventive maintenance, rehabilitation and reconstruction.”

MoDOT leadership recognizes that redesigning, rebuilding and replacing aging infrastructure is a long-term solution that will be more thorough and costly.

“Addressing all of Missouri’s highway and bridge needs will require substantially more funds than Amendment 3 can provide,” said District Engineer Beth Wright. “Some of the projects already identified in the district’s five-year construction plan will move up in the letting schedule, but we’re a long way from addressing all of our area’s needs.”

## First Set of Projects

About \$28 million in District 4 Smooth Roads Initiative projects were awarded in the January and March 2005 lettings:

### Cass County

- **Route 7:** Pavement and shoulder treatments between Route 71 and Route Z
- **Route 71:** Pavement and shoulder resurfacing between 283<sup>rd</sup> Street and the Bates County line

### Clay County

- **I-35:** Pavement, ramp and shoulder resurfacing between Pleasant Valley Road and the I-29 split, and between the Clinton County line and Fishing River
- **Route 152:** Diamond grind pavement and seal shoulders from Brighton Avenue to west of Flintlock Road
- **Route 169:** Diamond grind southbound pavement and seal shoulders from north of I-435 to north of 108<sup>th</sup> Street; diamond grind northbound pavement and I-435 ramp with shoulder treatment from north of Barry Road to one mile south of I-435

### Jackson County

- **I-70:** Pavement resurfacing and seal shoulders between Manchester and I-470, including ramps at Route 40, I-470, Manchester, Blue Ridge Cutoff, Blue Ridge Boulevard and Lee’s Summit Road
- **Route 7:** Diamond grind pavement between Moreland School Road and Sunset Drive
- **Route 291:** Diamond grind pavement and treat shoulders from north of Route 24 to north of Sunset Drive

### Johnson County

- **Route 50:** Pavement and shoulder resurfacing from the Jackson County line to Route HH
- **Route 13:** Pavement resurfacing and seal shoulders between Business Route 50 and Cooper Street in Warrensburg

### Platte County

- **I-29:** Diamond grind southbound pavement and resurface shoulders between I-435 and the I-435 split, and diamond grind northbound lanes between Mexico City Avenue and I-435

# Triangle Project Passes Halfway Point

It may seem presumptive to throw a party when you're only half finished with a task. But when the event highlights untangling the Triangle interchange in southern Kansas City, everyone involved in the project agrees there's a lot to celebrate.

MoDOT and its partners recognized passing the halfway point in the Triangle interchange reconstruction project Nov. 5. Representatives from Clarkson Construction Co., APAC-Kansas, Inc., Ideker, the Heavy Constructors Association, HNTB Corp., the Hickman Mills community and the media gathered at a bluff overlooking the Triangle, where they could see many of the interchange's toughest knots already untangled.

Since breaking ground on the \$250 million project in April 2001, MoDOT has opened a new I-435, a new westbound I-470 and several new ramps – all ahead of schedule. At each step of the way, noticeable improvements have been delivered as promised to the 225,000 motorists who use the Triangle every day.

In less than four years, 10 new bridges have been built. Three more were completed by the end of 2004, including the westbound I-470 ramp to southbound Route 71 that will feature the tallest bridge in the interchange at more than 100 feet.

The contractors have also removed nine old bridges which had to come out quickly to make way for this year's opening of eastbound I-435/470, the most congested segment in the Triangle.

"Untangling the Triangle is on schedule and on budget," said former MoDOT District Engineer Sabin Yañez. "That's quite an accomplishment considering the new interchange is being built next to a fully functioning interchange that handles a quarter million vehicles per day."

The project should be complete in 2008, just as promised when the plan was unveiled five years ago, Yañez said. He credited the local community, designers, contractors, the city of Kansas City and motorists for outstanding teamwork in dealing with the project's enormous challenges.

In addition to new pavement and bridges, the project includes:

- Rerouting and cleaning out thousands of tires

and assorted debris from Hart Grove Creek.

- Installing 41 steel silhouettes depicting the region's pioneer trail heritage along I-435 between 87th Street and Bannister Road.
- Working with Kansas City Public Works on widening Hickman Mills Drive and building three roundabout intersections on Longview Road.
- Designing a bike and hike trail on the Three Trails corridor with a tunnel under Route 71.
- Adding a transit center for buses and ride-sharing commuters next year.

By December 2005, motorists will enjoy more new through lanes on eastbound I-435/470. Work also will continue on the Red Bridge Road interchange and collector ramp system that will connect the three highways.

In the next few years, bridges over Longview Road will be removed and a new Longview Road bridge will be built over Route 71. By the end of 2005, the Kansas City Southern Railway bridge will be replaced by two wider bridges, providing the railroad twice the capacity and far more driving lanes for motorists.



Steve Porter

**Kansas City, Mo. 6th District Councilman Chuck Eddy congratulates MoDOT staff, project leaders and residents on teamwork at a ceremony marking the halfway completion of the \$250 million Triangle project.**



Clarkson Construction Co.

**An aerial view of the new I-435 through the Triangle shows progress through May 2004.**

## Bridge to Open Late-Spring 2005

# New Missouri River Bridge Dedicated May 14

It's a celebration that only happens about once every 100 years, so Lafayette and Ray Counties planned a day of events to celebrate the dedication of the new Route 13 Missouri River Bridge on May 14.

The bridge will officially become the Congressman Ike Skelton Bridge in late August, following the governor's approval of a bill that named the structure for Skelton.

Hundreds of residents attended the dedication ceremony at Wentworth Military Academy to salute Congressman Skelton, a Lexington



State and local officials joined community representatives and MoDOT personnel to cut a ceremonial ribbon at the dedication event.



MoDOT Director Pete Rahn congratulated Cong. Skelton and his family following the ceremonies.

native who represents Missouri's 4th District.

Although the bridge will not open to traffic until sometime in June, the Highway 13 Missouri River Bridge Dedication Steering Committee selected the mid-May dedication date based on school and legislative calendars and community festivals already slated for May and June.

The existing bridge opened to traffic in October 1925. It is 22 feet wide and was constructed at a cost of \$1.25 million. The new bridge is three-quarters-of-a-mile long and is 78 feet wide. It features two 12-foot lanes in each direction, two 10-foot outside shoulders, two 4-foot inside shoulders and a two-foot median. Located two miles east of the existing bridge, it was constructed at a cost of \$50 million.

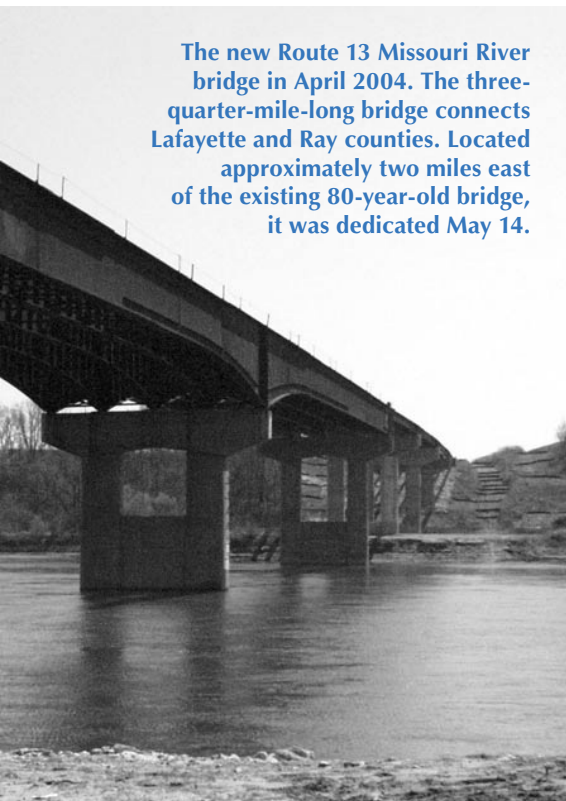


The existing Missouri River bridge at Lexington photographed shortly after opening to motorized traffic Oct. 31, 1925 (lower), and from the river bank in Sept. 2003 (upper).





**Wentworth Military Academy's Color Guard began the May 14 ceremonies.**



**The new Route 13 Missouri River bridge in April 2004. The three-quarter-mile-long bridge connects Lafayette and Ray counties. Located approximately two miles east of the existing 80-year-old bridge, it was dedicated May 14.**

## Lexington Man Creates Commemorative Artwork



Lifelong Lexington resident Ryan Engelbrecht was selected by the Highway 13 Missouri River Bridge Dedication Steering Committee to design the commemorative artwork for the dedication of the new bridge.

Nine artists from Lafayette and Ray counties submitted samples for the opportunity to design the commemorative art. "There was a lot of discussion about all the entries and it was a tough decision," said Ann Crume, Lexington Chamber of Commerce executive director. "All the submissions were excellent."

Engelbrecht said he decided to submit his artwork when he learned the opportunity was limited to Lafayette and Ray county residents. "There aren't very many chances to do something like this," said Engelbrecht. "This is part of history since there has only been one bridge dedication in Lexington prior to this. I hope I created something that people will enjoy and remember."



**Lexington, Mo. resident Ryan Engelbrecht created the commemorative artwork for the bridge dedication.**

Engelbrecht earned a degree in illustration from Central Missouri State University. He describes himself as mostly self-taught. "I strive for realism in my artwork."

Engelbrecht is employed full-time by United Parcel Service "I'm not a full-time artist," said Engelbrecht. "This is mostly a hobby for me. I feel honored to be a part of this dedication and to help design the commemorative artwork."

# TowPLOW Premieres in First Snow Fight

Bob Lannert knows the old phrase, “Necessity is the mother of invention.”

Call him the father of a radical device that could revolutionize snow removal for maintenance crews across the nation.

Lannert, Central Office technical support engineer, and a team of resourceful MoDOT employees took advantage of the New Year’s first snowstorm to deploy an exciting new tool. The TowPLOW™ was crafted by MoDOT employees in District 4’s Oak Grove maintenance building last spring and tested on gravel during the summer.

But since it was made to plow lots of snow, they just had to wait until conditions were right.

That came the first week of January, when District 4’s maintenance crews put Lannert’s brainchild to its first challenge on a slushy Interstate 70 between Kansas City and Blue Springs. The equipment, composed of three 10-foot moldboard plows attached to a steerable frame, is towed behind the department’s customary tandem dump trucks that are also equipped with 14-foot plows.

Two 300-gallon tanks that can be filled with brine are secured to the top of the frame to stabilize the equipment. It is lighted with strobes and reflectors for high visibility.

## How It Works

When in transit to and from the garage, the TowPLOW™ trails behind the truck and is no wider than 11 feet. But when deployed in the field, hydraulic cylinders steer its four wheels to align the blades at an angle plowing nearly 30 feet, performing the equivalent work of another two trucks in a gang-plowing operation. That frees two trucks for other road-clearing duties.

“I recognized 10 years ago that we had a gang-plowing problem,” Lannert said. “It is difficult to get eight or more plows to work together to clear five or more lanes. Even with a truck equipped with a wing plow, you can only clear about 16 feet. It takes a lot of equipment – and a lot of manpower, too.”

Lannert pondered possible solutions for several years. The TowPLOW™ idea came to him while farming. Modern agricultural equipment is



Pat Moseley

**The TowPLOW™ makes its debut along I-70 in Kansas City during a Jan. 5 snowfight. Designed by Bob Lannert, Central Office technical support engineer, and crafted by D4’s Oak Grove maintenance facility employees, the TowPLOW™ performs the equivalent work of two trucks in a gang plow operation. The device could revolutionize snow removal across the nation.**

steerable: It can be deployed over 30 or 40 feet of ground but still be towed down a country road, across narrow bridges and through tight gates and machine-shed doors. The TowPLOW™ employs the same maneuverability principle.

Lannert completed the design in 2002. Wess Murray, District 4 maintenance superintendent, urged MoDOT’s Central Office to allow his team to order parts and fabricate the new tool. Oak Grove crew members delivered the first unit in May 2004. By August, it was demonstrated at a Mexico maintenance facility. Two more were ordered before the first snowflake fell in Missouri.

Murray was pleased with the Tow-PLOW’s™ first deployment in freezing rain, sleet and a few inches of snow.

“In the conditions we dealt with, it worked very well,” Murray said. “We want to see how it performs in heavier snow.”

## D4 Kicks Off Cargo Securement Training

"We are here today because of the cargo we haul daily," said Joe Jarboe, district safety and health manager. "We don't want this kind of incident to happen to us."

Jarboe then distributed an article that described the death of a 25-year-old Odessa woman who was killed when a vehicle flipped a heavy piece of steel lying on Interstate 70 through her windshield. A jury found a Kansas City scrap-metal company liable in her death, and awarded \$3 million in damages to her 9-year-old son. The bottom line: Jurors found the company and the driver endangered the woman and the public by not securing its loads.

Twenty-five District 4 maintenance and traffic employees gathered Feb. 23 for a half-day of train-the-trainer cargo securement instruction by Jarboe. The training consisted of classroom instruction about the physics of weight, mass and gravity, hands-on tie-down practice and a written exam. Employees also learned the principles of cargo securement including tiedowns and working load limits, how to load equipment onto a trailer, how to secure large equipment for transport, and facts about chains and binders.

Jarboe stressed the driver's responsibility for the safe loading and unloading of cargo to prevent it from leaking, spilling, blowing or falling from the vehicle. He defined cargo as anything carried by the vehicle, other than liquid or gas, that is not part of the vehicle. Examples cited include tools, signs and supplies; road-building materials such as rock, asphalt and mixes; and heavy equipment such as tractors, loaders and rollers.

"All employees who haul cargo will be trained in the proper methods of securing their cargo and equipment," said Jarboe. "Not only will we comply with state law, but we will meet or exceed USDOT Federal Motor Carrier Safety Administration regulations with regard to securing cargo."

Those who attended the cargo securement training will be responsible for training their co-workers within the next 90 days. The training, developed by District 4, will eventually be implemented statewide. It includes a cargo securement manual.

Jarboe acknowledged that taking extra time to



Jennifer Benefield

**Delbert Kessinger (left) of the Harrisonville maintenance facility and Terry Hufford (right) of the Blue Springs maintenance facility, check the tension on a chain used to secure a loader to a trailer. Both will pass along what they learned when they train their co-workers on proper cargo securement.**



Jennifer Benefield

**Twenty-five maintenance and traffic employees take an exam to demonstrate their knowledge of cargo securement learned during a Feb. 23 half-day training session.**

properly secure cargo might increase workload, but it is necessary. "Serious consequences can develop when this law is broken."

## Paseo Bridge

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Location Study that will recommend long-term improvements along the I-29/I-35 corridor on either side of the river crossing.

The EIS is identifying and paring down strategies that address the corridor's future travel needs. The study should be complete in 2006.

## ITS Elements to Aid Motorists During Closure

MoDOT reached deep into its toolbox to help motorists cope with the Paseo Bridge closure in downtown Kansas City this summer.

Traffic signals on both sides of the river were adjusted to maximize rush-hour traffic flow. Detour signs direct through traffic on I-29/I-35 away from the downtown area and help delivery vehicles reach businesses that operate in the bridge's shadow. Motorist Assist drivers have altered their routes and are coordinating with other emergency service providers to ensure the fastest incident response possible.

And lessons learned from more than

a year's worth of experience with Kansas City Scout will enable Intelligent Transportation System technology to play a role in the project.

MoDOT has deployed technology that senses when backups start to develop on the Broadway Bridge (Route 169) or the Heart of America Bridge (Route 9), which are the river crossings nearest the Paseo Bridge. That information will be displayed on electronic signs placed at key decision points, allowing drivers to take advantage of alternative routes and maintain the best possible traffic flow.

The department is also exploring how to quickly clear accidents from the alternative routes. Experience gained from the department's Interstate 70 reconstruction project through Blue Springs and Independence in 2004 may lead to enhanced coordination between emergency response agencies.

"Moving vehicles involved in fender benders out of traffic quickly will help us keep traffic moving on the other routes when the Paseo Bridge is closed," said Warren Roberts, technical support engineer. "We're working on plans to implement that practice wherever it's practical."



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